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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/713,539	<b>Applicant(s)</b> TOYAMA ET AL.	
	<b>Examiner</b> Eric V Woods	<b>Art Unit</b> 2672	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 16-36 and 43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15, 37-42, 44 and 45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. <u>20050504</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____.  |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-15, 37-42, and 44-45, drawn to background images and regions of interest, classified in class 345, subclass 629.
  - II. Claims 16-36 and 43, drawn to intermediate images and narrow dynamic ranges, classified in class 382, subclasses 260, 298, and 173+.
2. Inventions Group I and Group II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention Group I has separate utility such as viewing high resolution images with different level of exposure, whereas Group II has separate utility for image editing as well as providing many different views of the same image at different color levels and enhancements. See MPEP § 806.05(d).
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.
5. During a telephone conversation with Stephen A. Wight (37,759) and Chris Fitzpatrick on 4 May 2005 at 2 p.m. EST a provisional election was made without

traverse to prosecute the invention of Group I, claims 1-15, 37-42, and 44-45. Applicant in replying to this Office action must make affirmation of this election. Claims 16-36 and 43 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

#### ***Information Disclosure Statement***

6. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the examiner has cited the references on form PTO-892, they have not been considered. To ensure consideration by examiner, applicant must submit a form PTO-1449 with the cited references (and copies thereof of references that are not US patents or pre-grant publications).

#### ***Specification***

7. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### ***Claim Objections***

8. Applicant is advised that should claims 1 and 15 be found allowable, claim 44 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both

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cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

9. Specifically, claim 44 recites means plus function limitations that are exactly the same as the steps recited in method claim 1. Further, it claims that such means are embodied as a software system as a computer program stored on computer-readable media, e.g. the additional limitation of claim 15.

***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the first and sixth paragraphs of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

11. Claim 44 is rejected under 35 U.S.C. 112, first and sixth paragraphs, because the specification, while being enabling for causing a computer to construct a high dynamic range image with a background image and a portion of said image corresponding to one or more regions, does not reasonably provide enablement for the other steps, namely receiving high dynamic range information, receiving region of interest information or displaying said image. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. Namely, the system recites software which does provide, in of itself, any means that would allow a computer to

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perform the recited operations, namely receiving files and obtaining user input to implement user selection of a region of interest, are known to prima facie require some sort of computer hardware (e.g. see claim 1 as evidence to this effect). A claim reciting software performing acts on a computer that require user interfaces and actions that recites "means" to invoke the protection of 35 U.S.C. 112, sixth paragraph, cannot evade the requirement that the specification must provide reasonable antecedent basis for such recitations and support their enablement (Wolfensperger, 302 F.2d at 955, 133 USPQ at 542).

Further, the mere recitation that a computer program is to make a computer execute certain steps that prima facie require user intervention (as stated above it is known prima facie that such steps require a computer that has certain components (e.g. display and input devices)) does not excuse the claim from setting forth the fact that a "computer per se" would not be adequate to perform the stated task; the other, essential elements are not present, and applicant has admitted in the specification that such components are essential to the practice of the invention. In reciting "means" in a software only claim, applicant does not get the implied coverage that a method claim provides, since an apparatus claim, which a claim to a computer program product is (under current court and legal doctrine), must explicitly set out all essential components.

12. Also, claim 44 stands rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure that is not enabling. Elements critical or essential to the practice of the invention, but not included in the claim(s) are not enabled by the disclosure. See *In re*

*Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976), and the reasoning in the immediately preceding paragraph.

In order to traverse the first rejection, applicant is **required** to amend the specification pursuant to 37 CFR 1.75(d) to explicitly state what structures, materials, or acts described in the specification and their equivalents thereof (see MPEP 2181, subsection IV).

In order to traverse the second rejection, applicant is required to point out support in the specification for a claim that a computer lacking those key components could in fact act as the recited 'means' in claim 44 for such a computer program. Further, the burden is on applicant to prove that the claim scope of claim 44 is such that it does not in fact lack essential steps for the reasons set forth above.

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1-4, 8-10, 14-15, 37-38, 40, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Photoshop (Siprut, Mark; "Adobe Photoshop Handbook" 1995) in view of in view of HDRView (as cited by applicant in specification).

15. As to claims 1 and 44, it is trivially well known in the art of image editors, such as Adobe® Photoshop™, to display a background image and allow a user to select a region within it. Further, such photo editors are trivially well known in the art – the

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example of Photoshop is cited above, while Microsoft Office has come with a Photo Editor since 1991 (if a user clicks on the About window, it shows as copyright 1991-1998, which clearly proves a date of conception at least five years before applicant's invention). Furthermore, in Figure 1-6 of Photoshop, a dashed box is shown where a user selected a region. This functionality is again trivially well known, and the user can clearly select multiple regions.

HDRView is a software package cited by applicant that allows the user to view a HDR image and to adjust exposure, zoom, flip, etc., and export the results as a low-resolution file. Clearly, such a software package shows that it is well known in the art to allow a user to view an image and adjust parameters in such a way as to view different portions of the information it contains.

The point here is that Photoshop clearly teaches that an image is displayed on the screen as background and then the user clearly selects a portion of it with a selection lasso, rectangular box, or some other form of selection (Photoshop, pages 209-214).

Clearly, the functionality of HDRView could be incorporated by Photoshop to provide the recited limitations wherein HDRView must prima facie receive a HDR image and open it, and HDRView is a program running on a computer system that clearly displays high dynamic range digital images on a display. Further, it would be obvious that since Photoshop teaches selecting a region as set forth above and altering its contents (for example, via applying a filter – see pages 360-390 for various types of filters) to allow the viewing of the region based on maximum and minimum chrominance



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or luminance or exposure value (Photoshop pages 305-307 clearly describe how chrominance and luminance can be manipulated in various color spaces that Photoshop can work with).

Clearly, by using a filter to slightly alter the luminance or chrominance, the extra dynamic range information present in the images of HDRView could very easily be shown or adjusted by a user to the desired range as set forth above, wherein the user could obviously select a region of the image (see Photoshop) and then select an exposure value for that region only. Again, this would be a trivial modification.

HDRView is obviously analogous art, as applicant cites it in the specification, and Photoshop is prima facie analogous art because it is a virtual standard in the world of digital image processing for editing and combining images.

Further, it would be obvious to combine the additional capabilities of HDRView with Photoshop, e.g. to allow Photoshop to be able to view HDR images in the same manner as HDRView, and adjust exposure, etc., to get the desired final image to be output or exported as a JPEG or similar, as stated in the description of the HDRView software on the first page, since Photoshop does not natively handle HDR images in this manner.

Finally, if one examines page 213 of Photoshop where various selection lassos and areas are shown, it would be obvious (as shown in Photoshop Fig. 1-6) that the user can select a region, and then obviously changing the exposure value for that region alone would be equivalent to applying a Photoshop filter (pages 360-390) to it, so that different information (e.g. different luminance information (which is what is

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represented by exposure values)) would be shown, which therefore would render the claimed invention obvious.

16. As to claim 44, the means plus function language recited therein is moot for the following reasons: the claim is directed entirely to a software system, e.g. although the claim recites a computer-readable medium, software implements the apparatus and method, and as shown in the rejection to claim 14 below, which is incorporated by reference. Under *In re Alappat*, 33 F.3d 1526, 1540, 31 USPQ2d 1545, 1554 (Fed. Cir. 1994), the Federal Circuit held that means plus function language could not be ignored such that an apparatus claim is held to be synonymous with a process claim. However, in the case of pure software, this ruling does **not** apply, for the simple reason that any software that implements a method having the exact steps as recited as means in the means-plus-function claim would prima facie read on and anticipate or render obvious the means claims. Software is fundamentally nothing more than computer code, and there are an infinite number of ways that one of ordinary skill in the art could implement such computer code. Therefore, no additional limitations are brought into play by the invocation of 35 U.S.C. 112, sixth paragraph, and the claim is thusly rejected in the same manner as claim 1. (This rejection is a separate line of argument from the rejection under 35 U.S.C. 112 made previously).

17. As to claim 2, prima facie Photoshop is a graphical user interface.

18. As to claim 3, clearly allowing the user to select the exposure level in HDRView constitutes "a display parameter that differs from that of the background image", as set

forth above in the rejection to claim 1. Motivation and combination is taken from claim 1 and incorporated by reference.

19. As to claim 4, clearly HDRView allows the user to open a single file having any of the formats listed – e.g. PIC, TIFF, etc., and Photoshop is known in the art to open files in one pass as recited. Motivation and combination is taken from claim 1 and incorporated by reference.

20. As to claim 8, clearly HDRView allows the user to increase exposure on the entire image one step, flip the image, rotate the image, etc, and in the case of HDRView it is in fact the entire image that is manipulated. Motivation and combination is taken from claim 1 and incorporated by reference.

21. As to claim 9, Photoshop clearly teaches on page 267 that geometric transformations can be applied to portions of an image – e.g. rotate, scale, flip, effects, image size (zoom), et cetera. As an example, Figure 7-1 on page 268 clearly shows some of these changes, with the caption listing various transforms that have been applied to various portions of the shown images. Motivation and combination is taken from claim 1 and incorporated by reference.

22. As to claim 10, Photoshop (pages 453-457) teaches various blending methods that combine multiple layers in an image. Photoshop teaches that images are formed of various layers, in that each modification of an image can be done on a separate layer so that it can be rolled back, removed, or otherwise changed before the layers are finally merged or blended together. Clearly, as on page 61, the separate image could be on a separate layer and then be blended or combined with the main image as set forth on

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pages 453-457. Since only the primary reference is utilized, no separate motivation or combination is required and that from the rejection to the parent claim is herein incorporated by reference.

23. As to claim 14, as is shown in Photoshop Fig. 1.6 as cited above, it can prima facie have multiple images open simultaneously, and it would be prima facie obvious that when combined with HDRView, they could be all be HDR images. Since only the primary reference is utilized, no separate motivation or combination is required and that from the rejection to the parent claim is herein incorporated by reference.

24. As to claim 15, as can be seen in the HDRView reference directly, there is a link shown for "Files for Download" where the program can be downloaded. It is prima facie a computer program, as is Adobe Photoshop. It is well known to one of ordinary skill in the art that a computer program available for download on a webpage is clearly a computer-readable medium, since a network server having such a file available for download must be storing it on a computer-readable medium. As such, this limitation is prima facie and trivially obvious, and also one of ordinary skill in the computer art would be aware that any such file could easily be downloaded onto computer-readable media (floppy disk, Zip drive, recordable / rewritable CD-ROM, et cetera).

26. As to claim 37, this is a much broader implementation of claim 1 with the added limitation of claim 15. As such the rejection to claims 1 and 15 is herein incorporated by reference. The only additional limitation is a processor, which is inherent to a computer system. Therefore, this claim is obvious and all the limitations are met for the reasons set forth above.

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27. As to claim 38, clearly Fig. 1.6 and the entirety of the Photoshop reference show a display device with output for visually displaying images, which are prima facie digital since they are stored on a computer and exist therein in digital format. Since only the primary reference is utilized, no separate motivation or combination is required and that from the rejection to the parent claim is herein incorporated by reference.

28. As to claim 40, prima facie Photoshop is a graphical user interface, as is the HDRView software, and thusly they prima facie contain a graphical user interface module. Motivation and combination is taken from the parent claim.

29. Claim 5 is rejected under 35 U.S.C. 103(a) as unpatentable over Photoshop in view of HDRView as applied to claim 1 above, and further in view of Jyrinki (Timo Jyrinki, "High Dynamic Range Images", published on 4 July 2003).

As to claim 5, [Photoshop and HDRView do not expressly teach these limitations] Jyrinki clearly discloses in section 2, pages 2-3, that an HDR image can be created utilizing a series of differently exposed photographs as shown in Fig. 1. Clearly, this constitutes having high dynamic range image information comprising multiple pixels. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the image manipulation of Photoshop and HDRView with the multiple images of Jyrinki, as Jyrinki is a summary of techniques that are well known and commonly used in the art of HDR images, and this technique is clearly implemented by professionals and researchers in the field, and it would avoid having to merge all the smaller files into one large file, and would leave the original images available for examination and manipulation on their own.

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30. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as unpatentable over Photoshop in view of HDRView in view of Jyrinki as applied to claim 5 above, and further in view of Debevec et al (Debevec et al. "Recovering High Dynamic Range Radiance Maps from Photographs.").

As to claims 6 and 7, [Photoshop and HDRView do expressly teach this limitation] Jyrinki clearly teaches in section 2, pages 2-3 that HDR images can be created from a series of differently exposed photographs so that enough information can be gathered to form the HDR image. This implies that each of the individual photographs at different exposures do not contain enough information per se to form the HDR image, and Jyrinki clearly draws this from the Debevec paper, and since Jyrinki incorporates that section of the paper, the motivation for combination with Debevec is thusly provided. Debevec teaches on pages 4-5, section 2.3, that multiple images must have overlap in the working range of the film, and further that the minimum number of photographs needed is  $[R/F]$  where R is the range between the minimum and maximum radiance values to be recovered, and the film is capable of representing within its working range a dynamic range of F. Thusly and prima facie, each image will have less information and range than the final HDR product image as set forth above. As for the specific limitation of claim 7 that the plural images have different dynamic ranges, as stated by Debevec in section 2.3, the only requirement is that some portion of the dynamic range overlaps. Further, as stated on page two, section 1.1 of Debevec, image compositing involves images from different sources, e.g. a background matte from a still camera, live action with a different scanning program, and CG elements

produced by rendering elements for combination purposes. Clearly the two images – one from a still camera – and the other from a live action film camera – would have different dynamic ranges, which renders that claim a trivially obvious variant.

Motivation for combination with Debevec is already provided, and the motivation from claim 5 is herein incorporated by reference.

31. Claims 11 and 45 are rejected under 35 U.S.C. 103(a) as unpatentable over Photoshop in view of HDRView as applied to claim 1 above, and further in view of Durand et al (Frédo Durand and Julie Dorsey, "Fast Bilateral Filtering for the Display of High-Dynamic-Range Images.")

32. As to claim 11, Photoshop and HDRView do not expressly teach this limitation. Reference Durand teaches in section 2 (page 258) that tone-mapping parameters are varied across a local object (e.g. a region selected by the user or similar that has a different parameter than the background image), and further in section 4 on page 260, in the right columns, equations 9 and 10 provide a basis of equations to be solved to distribute a tone map across a local object or surface so that better distribution of color takes place, and clearly the tone map parameters can be varied by changing the coefficients in the equations (see for example sections 3.1 and 3.2 on pages 258-259). Therefore, those filtering techniques (see page 261 – section 5) clearly can be used to vary tone mappings across a surface. Now, clearly these constitute another class of filters that normally can be applied to HDR images. Clearly, Photoshop teaches that filters can be applied to objects, regions, and layers, and furthermore that external plug-ins and filters can be imported, such that the filters of Durand could be added to

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Photoshop in order to give it faster rendering compared to other techniques – in section 6.1 (page 263) Durand teaches that their techniques are much faster than previous methods, which would be an obvious motivation to combine with Photoshop – also the techniques of Durand are derivations and improvements on Gaussian blur techniques (section 1.1, page 258, sections 3.1 and 3.2, pages 259-260 among other locations), which would be obvious to augment Photoshop with, since Photoshop uses Gaussian blur filters (on page 364).

33. As to claim 45, the first additional limitation there is of image editing, whereas Photoshop is *prima facie* an image-editing program as set forth above in the various paragraphs in the rejection to claims 1 and 44 above, which is herein incorporated by reference in its entirety. The tone mapping limitation is taught in the rejection to claim 11 above, which is herein incorporated by reference in its entirety. Motivation and combination is taken from claim 11 above.

34. Claims 12 and 42 are rejected under 35 U.S.C. 103(a) as unpatentable over Photoshop in view of HDRView as applied to claim 1, and further in view of Estrada et al (US PGPub 2003/0142126 A1).

35. As to claim 12, HDRView and Photoshop do not expressly teach this limitation. It is trivially well known in the art to use cached parameters in order to speed up processing of images, and since the parent claim receives data (e.g. high dynamic range image) from somewhere, the techniques in Estrada that are designed to make images load faster (e.g. by storing certain parameters concerning them locally) are clearly relevant. Estrada teaches that images are cached and that their parameters are



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stored in a database such that even if the image is not cached *per se*, the parameters are cached in the database, such that they can be retrieved if necessary [0058].

Clearly, this technique would be relevant to the same problem solving area as applicant's work, as both are directed towards systems that retrieve and manipulate images and allow a user to browse one or more such images, and further as stated above the reliance on cached parameters is a standard technique in engineering and computer science that is known to speed up performance in almost any circumstances because it minimizes retrieval time and as such all of the above provides the motivation for combination and obviousness as set forth above.

36. As to claim 42, it is substantially the same as claim 12, the rejection to which is herein incorporated by reference, wherein as set forth in the rejection immediately above Estrada teaches that the images are stored in an image cache, which clearly meets the recited limitations of the claim. Motivation and combination is also taken from claim 12 above, which is appropriate given that the parent claim 37 is merely a broader version of the parent claim 1 for claim 12.

37. Claim 13 is rejected under 35 U.S.C. 103(a) as unpatentable over Photoshop in view of HDRView as applied to claim 1 above, and further in view of Kurashige et al (US 6,219,459).

Photoshop and HDRView do not expressly teach the limitation of this claim. Kurashige teaches a controller that allows the user to adjust parameters concerning the conversion of an input image to a linear drawing style in real-time (4:20-33). Clearly, the idea is very similar in concept to rendering languages and systems (such as

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RenderMAN™ by Pixar™), which allow real-time control over image parameters as they are generated. Kurashige further teaches in 1:45-67 that the system allows for real-time processing of areas having large differences in contrast (e.g. light level, lamp light and shade are cited as one example). Clearly, the system of Kurashige would allow easier extraction of the region of interest, wherein such a region having a different exposure could then easily be transformed in real time. The Kurashige reference is clearly analogous art, as it is related to image processing, which Photoshop clearly performs as set forth in the previous examples.

Real-time control of graphical output is well known in the art, see for example Doerry et al (US 6,424,287 B1)(The system allows the user to make corrections to the data in real time in Fourier space, that is, to adjust the parameters for real-time visualization (4:8-35, 7:60-8:10 among other locations)), Azordegan et al (US 6,770,879, page 3, cols 5-35), Chun et al (US PGPub 2004/0184059 A1)(see [0003, 0029, 0051]), etc., all of which clearly relate to image processing and manipulating the output of graphical systems manually in real-time, which is clearly directed to the same problem-solving area as applicant. Motivation to combine is taken from the fact that real-time control allows the user instantaneous feedback on how the changes they are effecting change the results, which always allows the user more flexibility, particularly when it comes to graphical applications, this is prima facie obvious and well known in the art, and it would allow Photoshop to perform filtering operations in hardware at a much faster rate, and it would be much cheaper than other hardware accelerators, and allow many users to utilize it thereof (see Kurashige 4:20-33).

38. Claim 39 is rejected under 35 U.S.C. 103(a) as unpatentable over Photoshop in view of HDRView as applied to claim 38 above, and further in view of Lofgren et al (US PGPub 2002/0154144 A1).

References Photoshop and HDRView do not, per se, teach this limitation expressly. However, reference HDRView is capable of at least rudimentary manipulations of images (see listing on page 1, wherein user can zoom in and out, flip and rotate the image, and change exposure values) and reference Photoshop can prima facie (see Fig. 1.6 for example) open files and modify them to create 'derived images'.

Reference Lofgren teaches that a user may create derivative images as shown in Fig. 2 and elaborated upon in [0039] using user terminal 18. Clearly, the user terminal or computer system 18 prima facie contains a derived image-constructing module implemented in software [0039]. The system of Lofgren teaches that digital watermarks are embedded into images in such a way as not to occlude their viewing or affect their visual context [0008-0011], so that owners of such images can control their use, distribution, security, classification, et cetera [0031, 0057]. Clearly, any image thusly processed can have such information embedded into it, e.g. images processed with Photoshop and HDRView as set forth above. Clearly, the addition of such capabilities would improve the systems of Photoshop and HDRView and provide obvious motivation for combination so that adequate controls over image classification, distribution, and the like, could be maintained.

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39. Claim 41 is rejected under 35 U.S.C. 103(a) as unpatentable over Photoshop in view of HDRView as applied to claim 37 above, and further in view of Fukuhara et al (US 6,546,144 B1).

References Photoshop and HDRView do not in of themselves expressly suggest this particular limitation, although reference Photoshop does teach splitting an image into color channels on pages 61-62, such that each channel can be viewed separately. Fukuhara teaches in Fig. 8 for example the display of various thumbnails of images after the processing discussed in 2:25-35 wherein the image is split into bands, wherein an intermediate image is formed after the band processing and can be shown to the user as a thumbnail as in Fig. 8 (8:10-17). Clearly, this constitutes forming an intermediate image as recited in the claim. The thumbnails so generated would be useful in their own rights for obtaining a better understanding of the frequency content of the components of the overall image.

As set forth in Fukuhara 11:22-39, the system can generate intermediate images to facilitate compression of the original image for transmission and storage purposes, and it is obviously applicable to digital still images on digital still cameras as stated. Clearly, a system that allows for more effective compression and storage of images would clearly be desirable in combination with Photoshop and HDRView because it would allow more images to be processed and stored for use with those programs; this is also trivially well known in the art. The thumbnails so generated would be useful in their own rights for obtaining a better understanding of the frequency content of the

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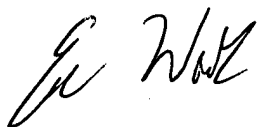
components of the overall image. Thusly, it would have been obvious to combine the images of Photoshop and HDRView with the system of Fukuhara.

**Conclusion**

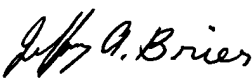
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric V Woods whose telephone number is 571-272-7775. The examiner can normally be reached on M-F 7:30-4:30 alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 571-272-7664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Eric Woods

  
JEFFERY S. BRIES  
PRIMARY EXAMINER

May 4, 2005